

# China coal industry (2008)- A Case Study

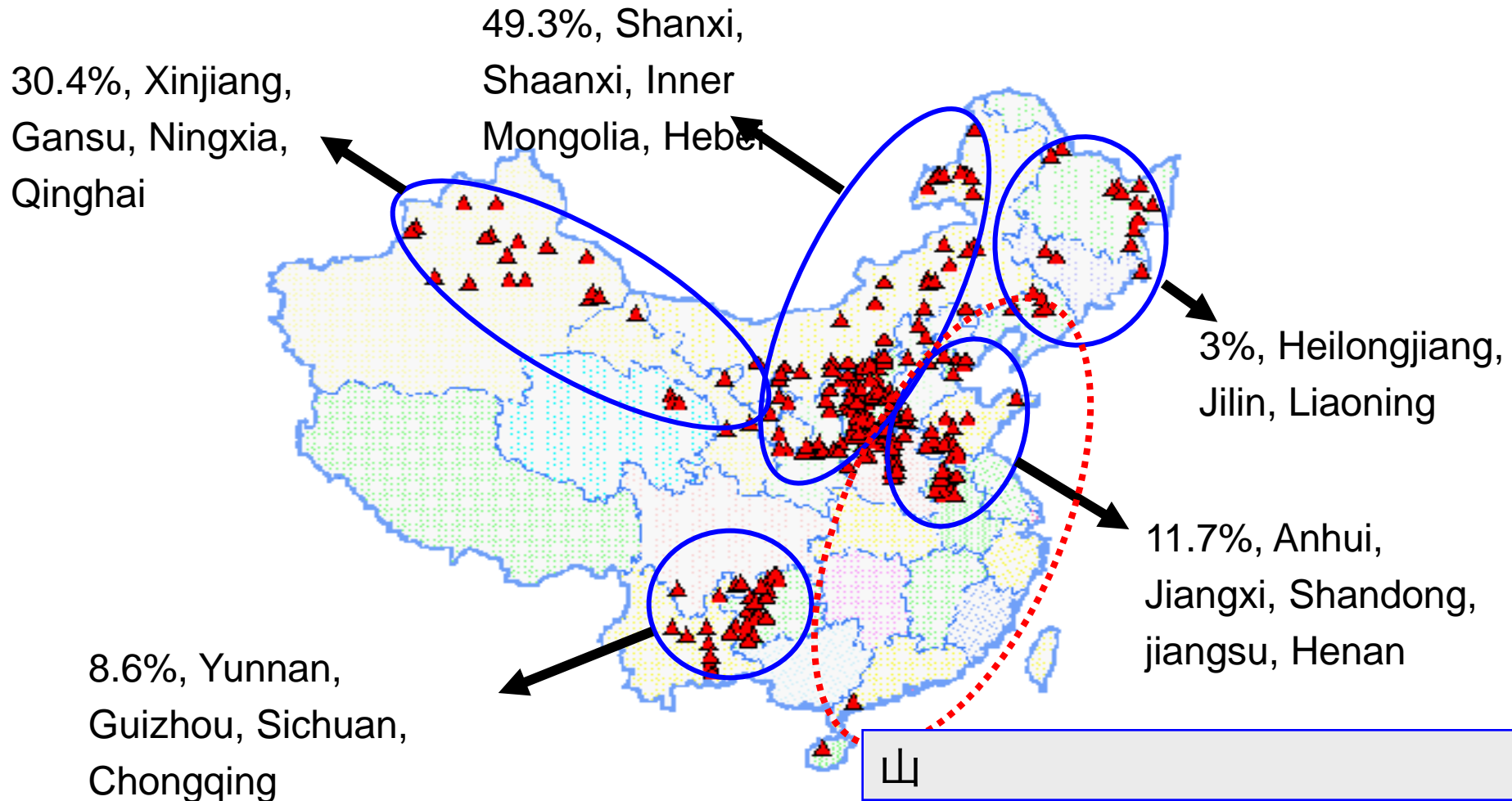
A

Synoptic Overview

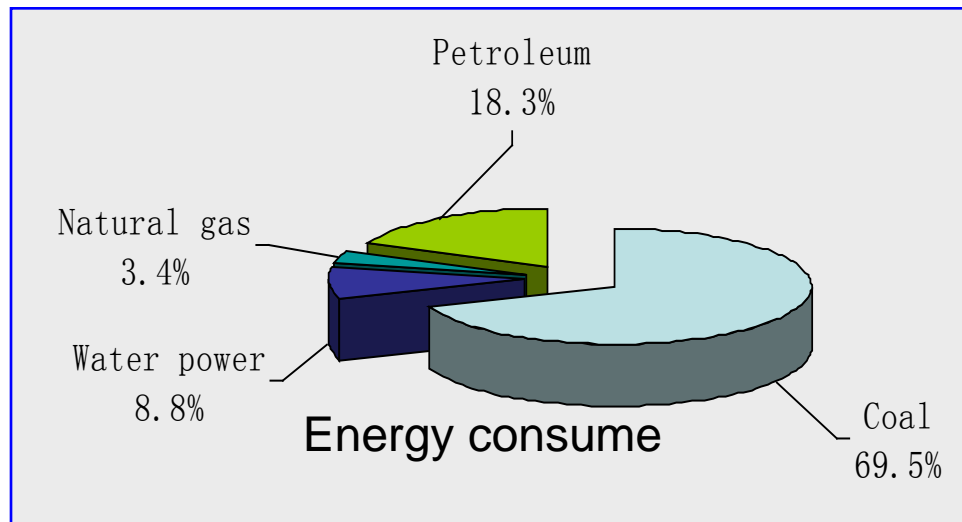
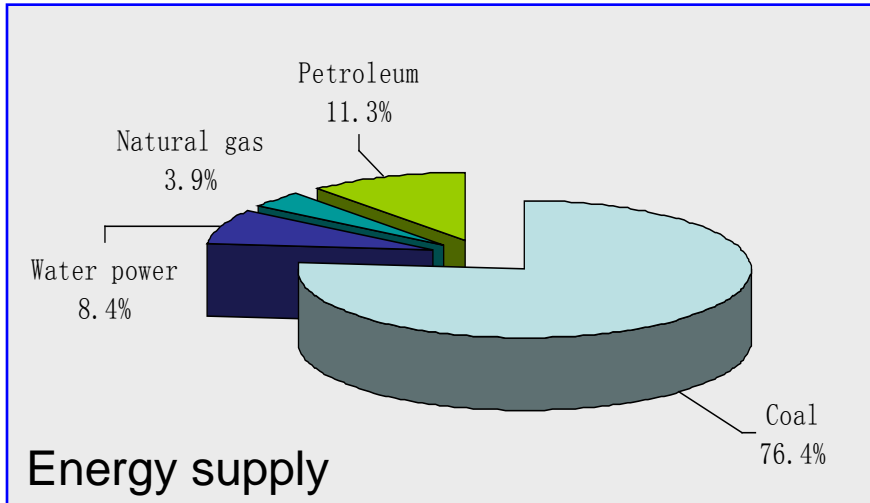
# Coal resources

- Total resource amount (h<2000m) 5570 bt, 11.6% of global amount
- Delineated resource 1018 bt
- Recoverable Resource is 192 bt

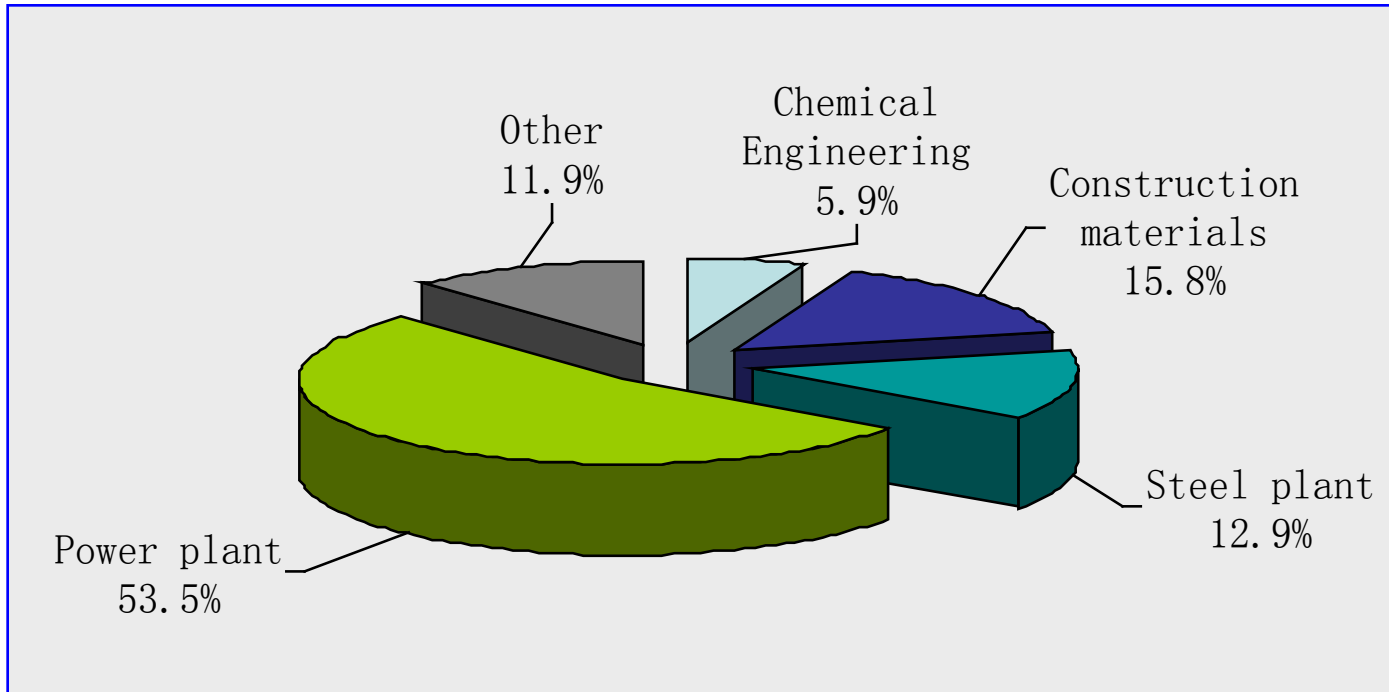
# Coal distribution



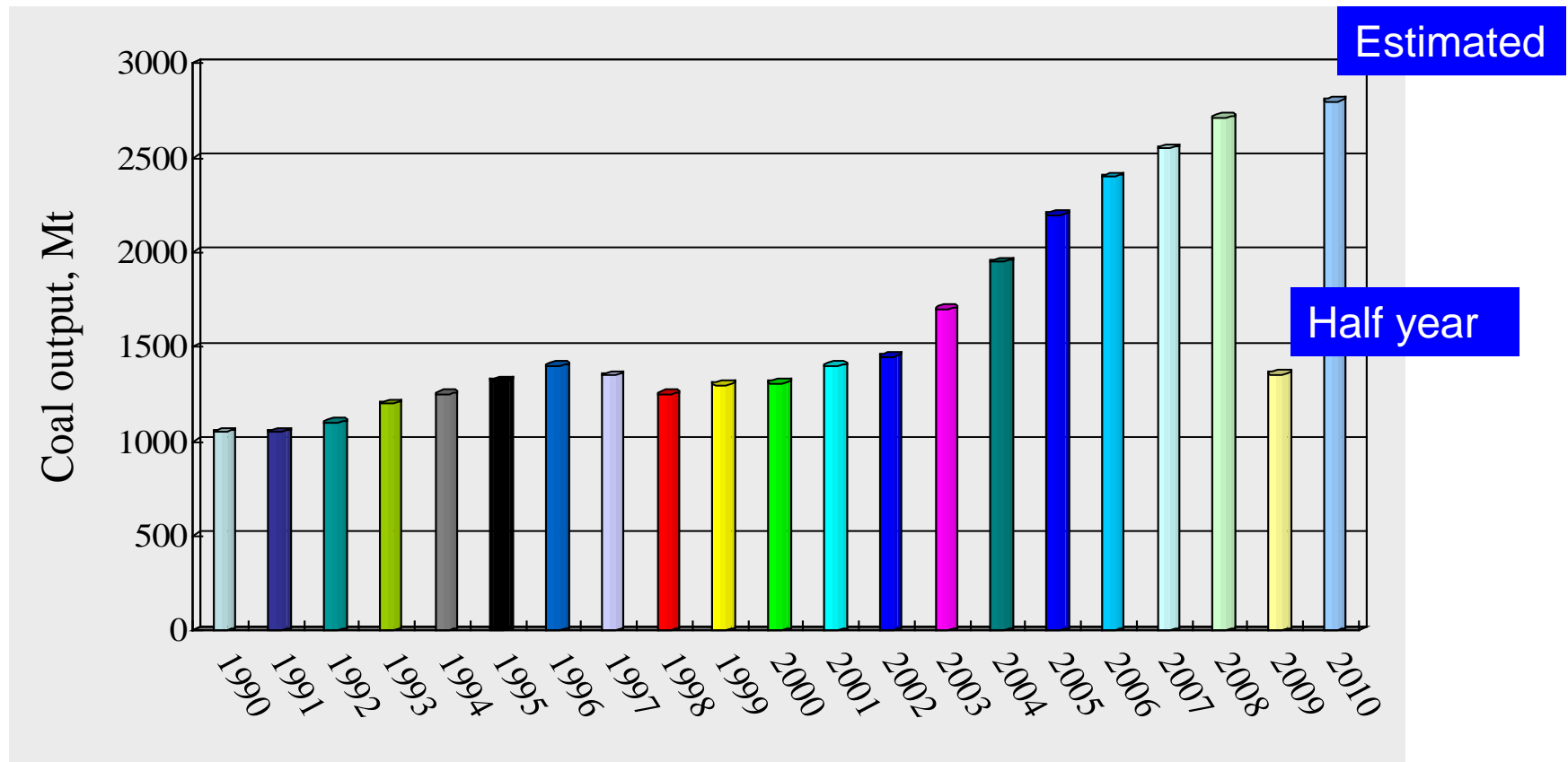
# Main energy supply



# Coal utilization



# National coal output



# Coal-bed gas resource

- Total resource amount (h<2000m) about 36.8 trillion m<sup>3</sup>, the third sizable resource in world
- This gas resource equals 45 bt coal or 35 bt oil, and the amount is almost same as natural gas resource in China

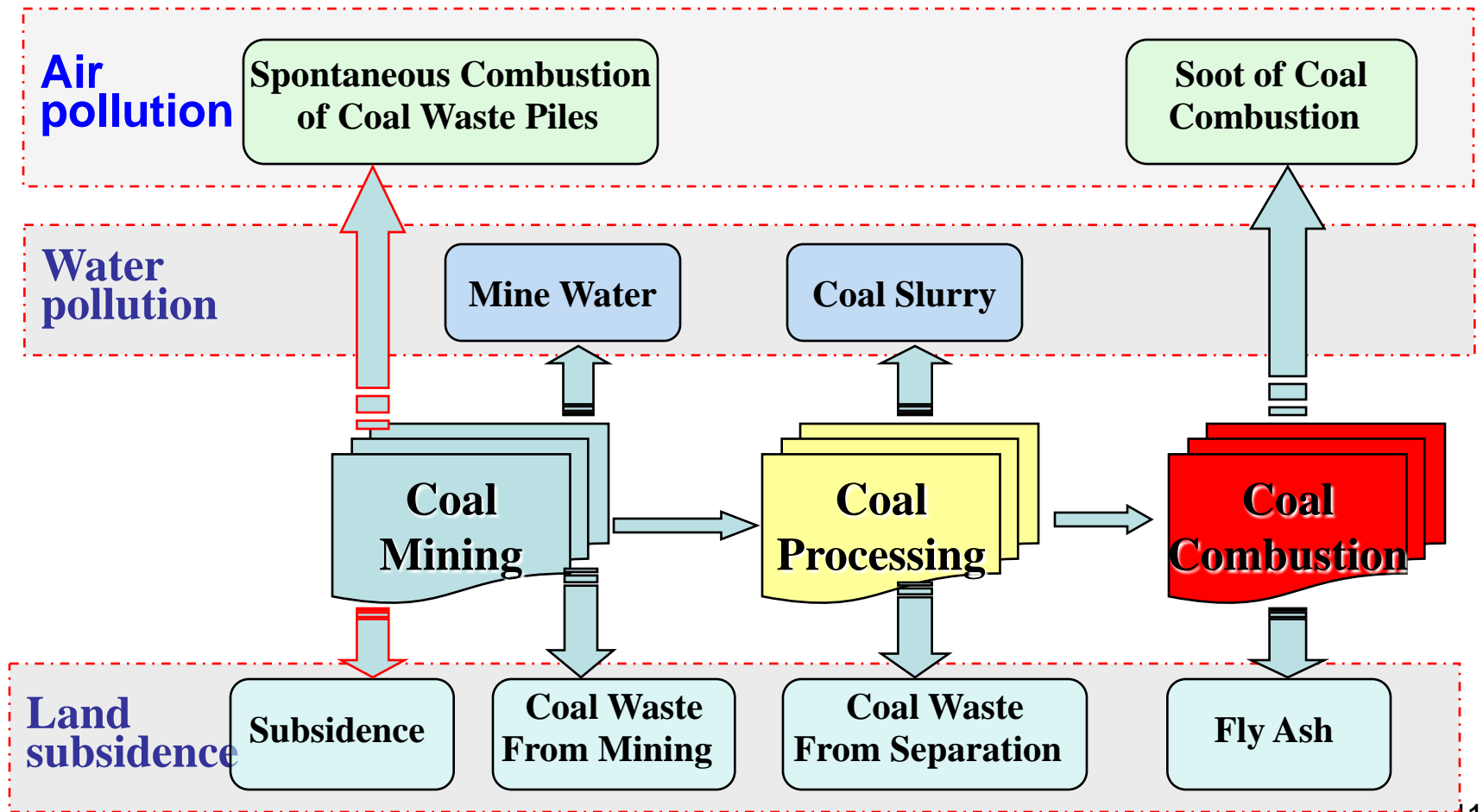


# Industry facts (2008)

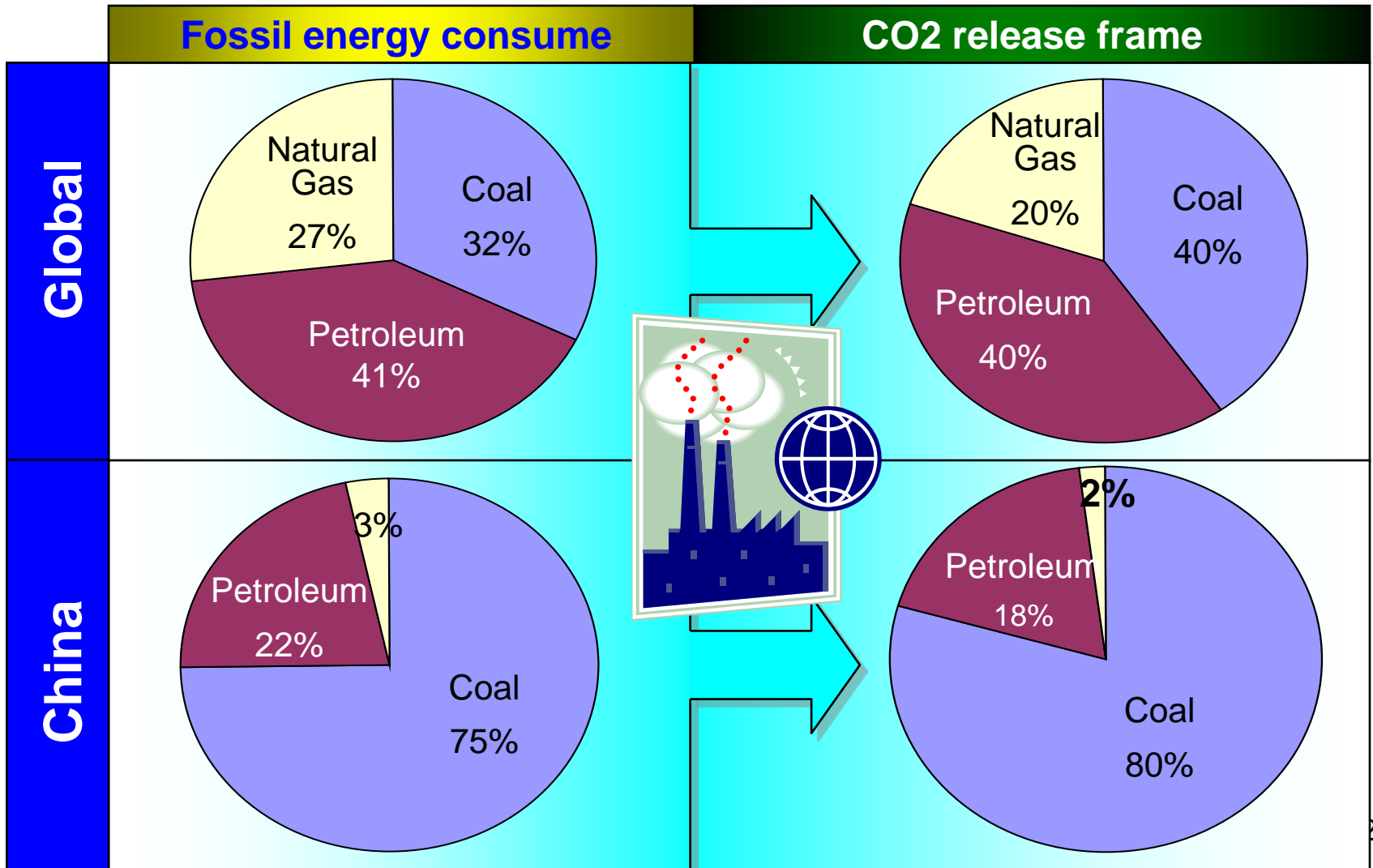
- Coal mine number in China, 16131, which has admitted output capacity of 3 bt
- 24 coal mines have output over 10 mt, of which 4 coal mines are over 20 mt size
- Another 24 coal mines are under construction with total capacity of 320 mt
- Convergence of coal mines is encouraged, 10 groups occupy 30% output in China

# Challenges for China coal industry

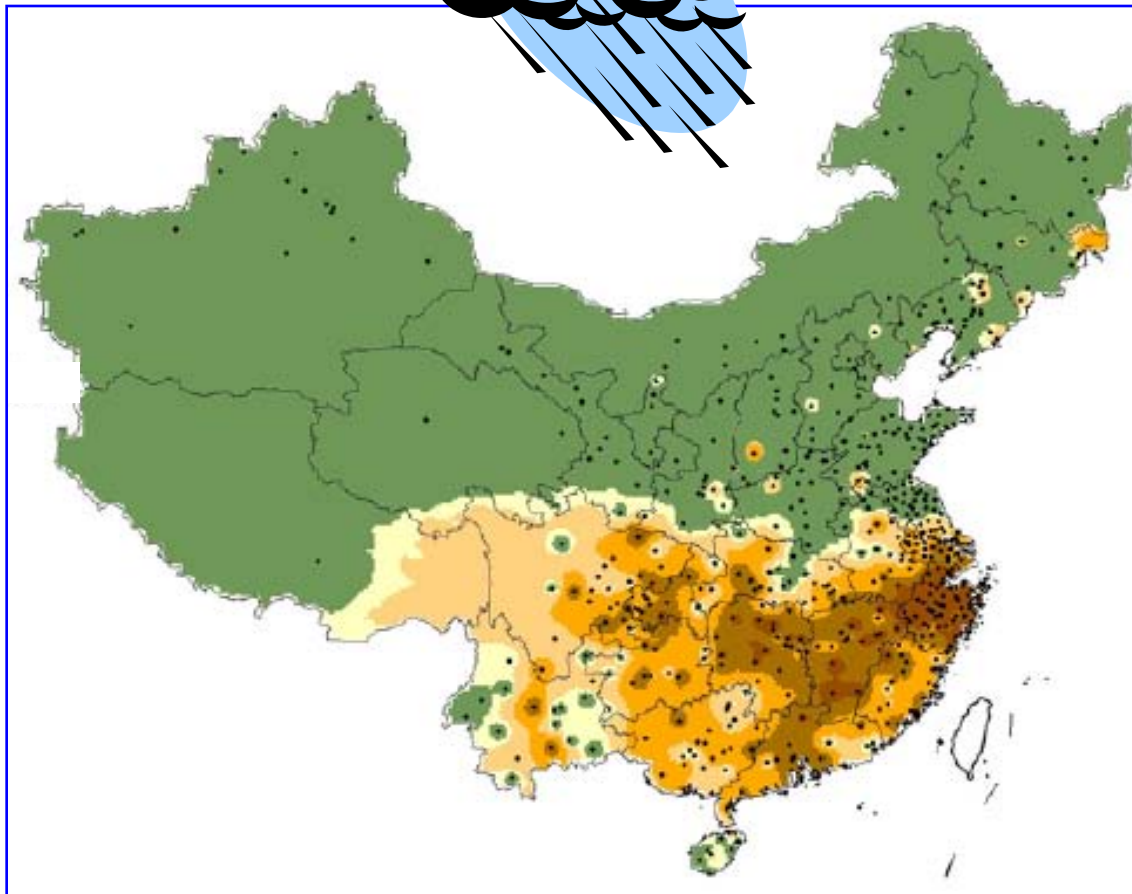
# Environment protection



# Greenhouse effect (2006)

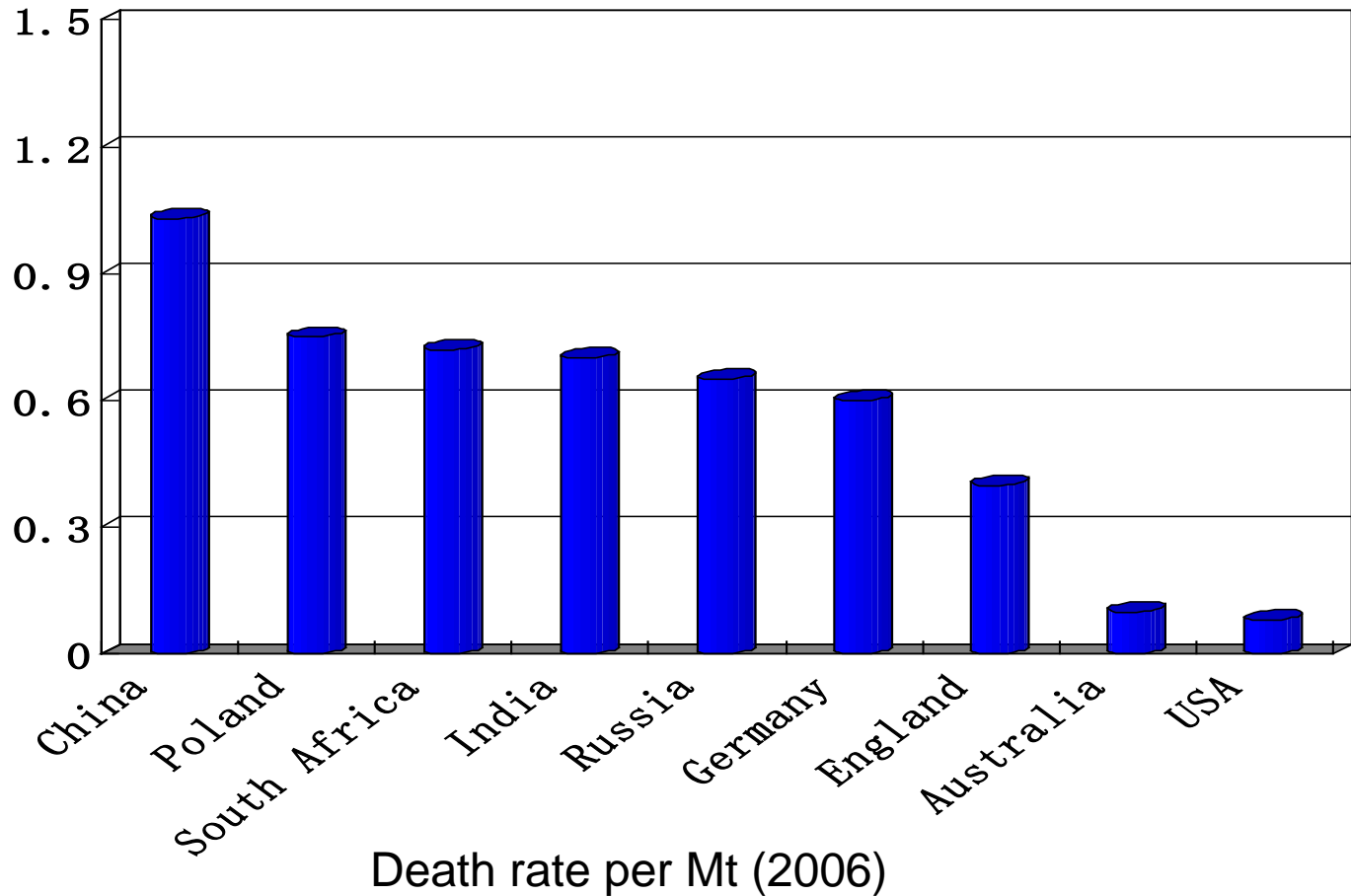


# Acid rain (2006)



酸雨频率	占国土面积比例
<5%	67.4%
5%-10%	6.8%
10-25%	10.4%
25-50%	8.2%
50-75%	5.4%
>75%	1.8%
无数据	

# Safety challenge



Data from the State Administration of Coalmine Safety, China

### 3. Strategy for China coal industry

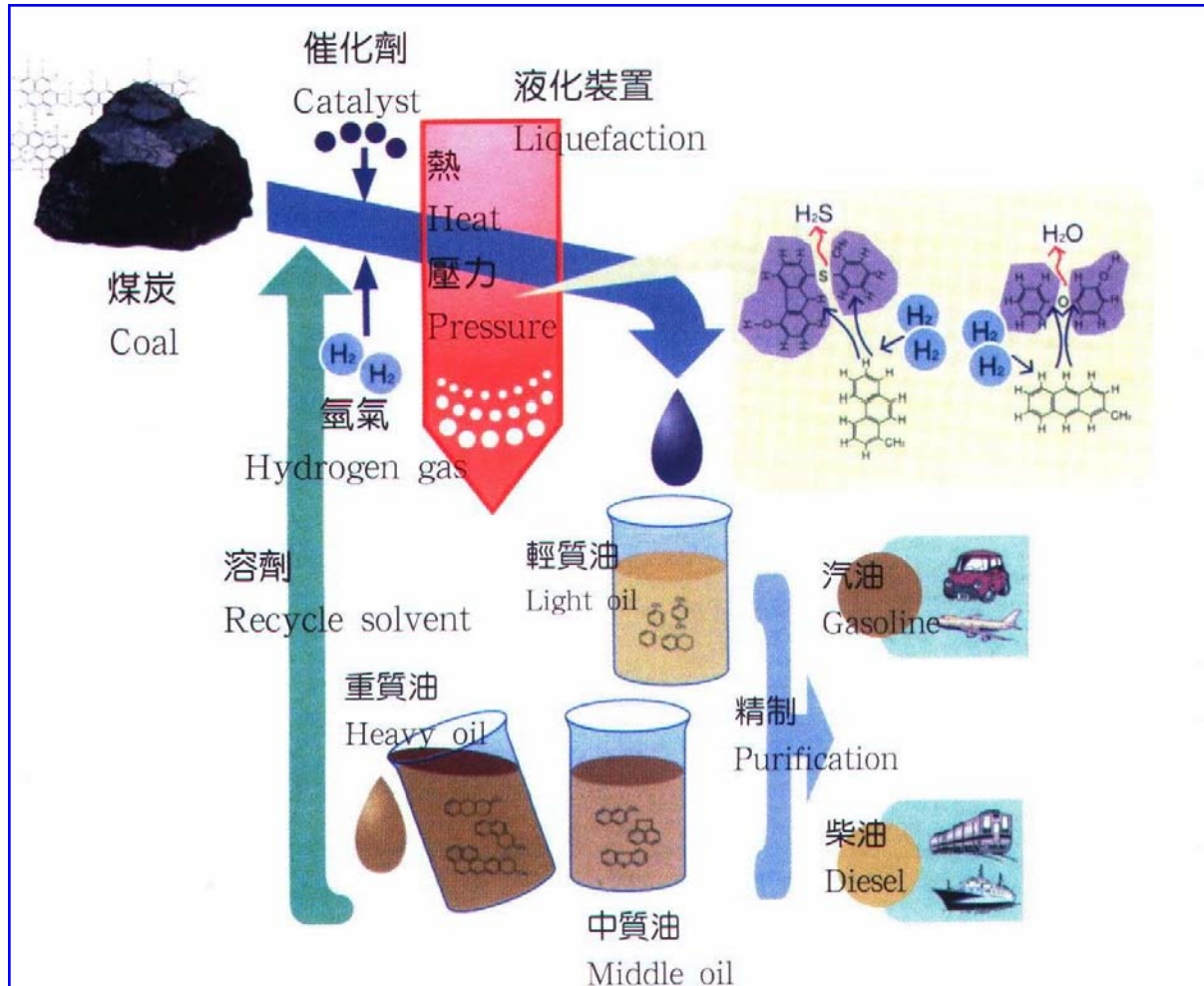
# Integrated coal base

- Before 2010, China will form 13 large coal-mine bases.
- Covering 14 provinces, total land area 103,400 km<sup>2</sup>
- Occupying 40 coal bed fields, coal reserve is about 690 Bt, 70% of China coal reserves.
- 86% output of China coal industry.

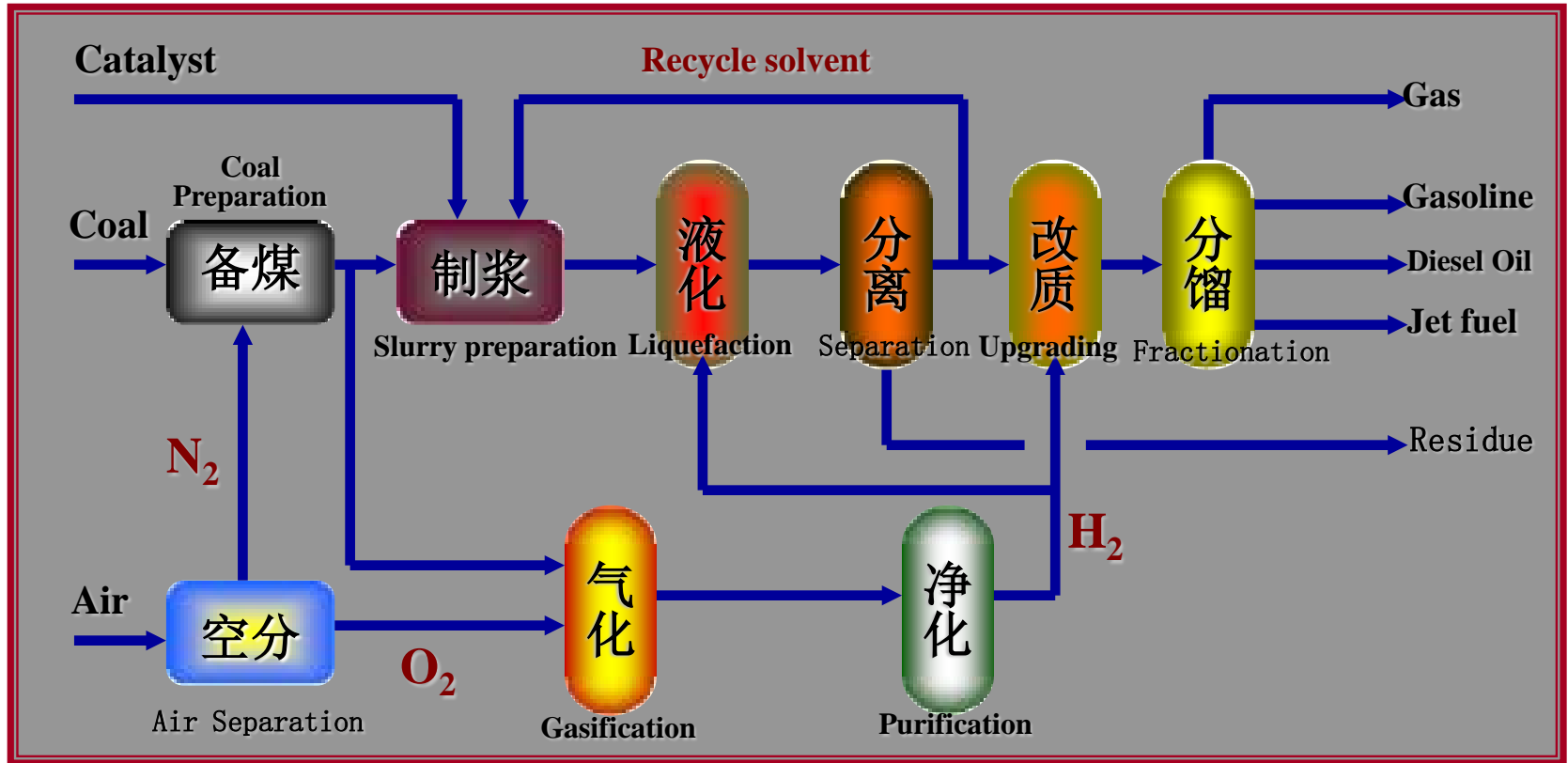
# Convergence mine group

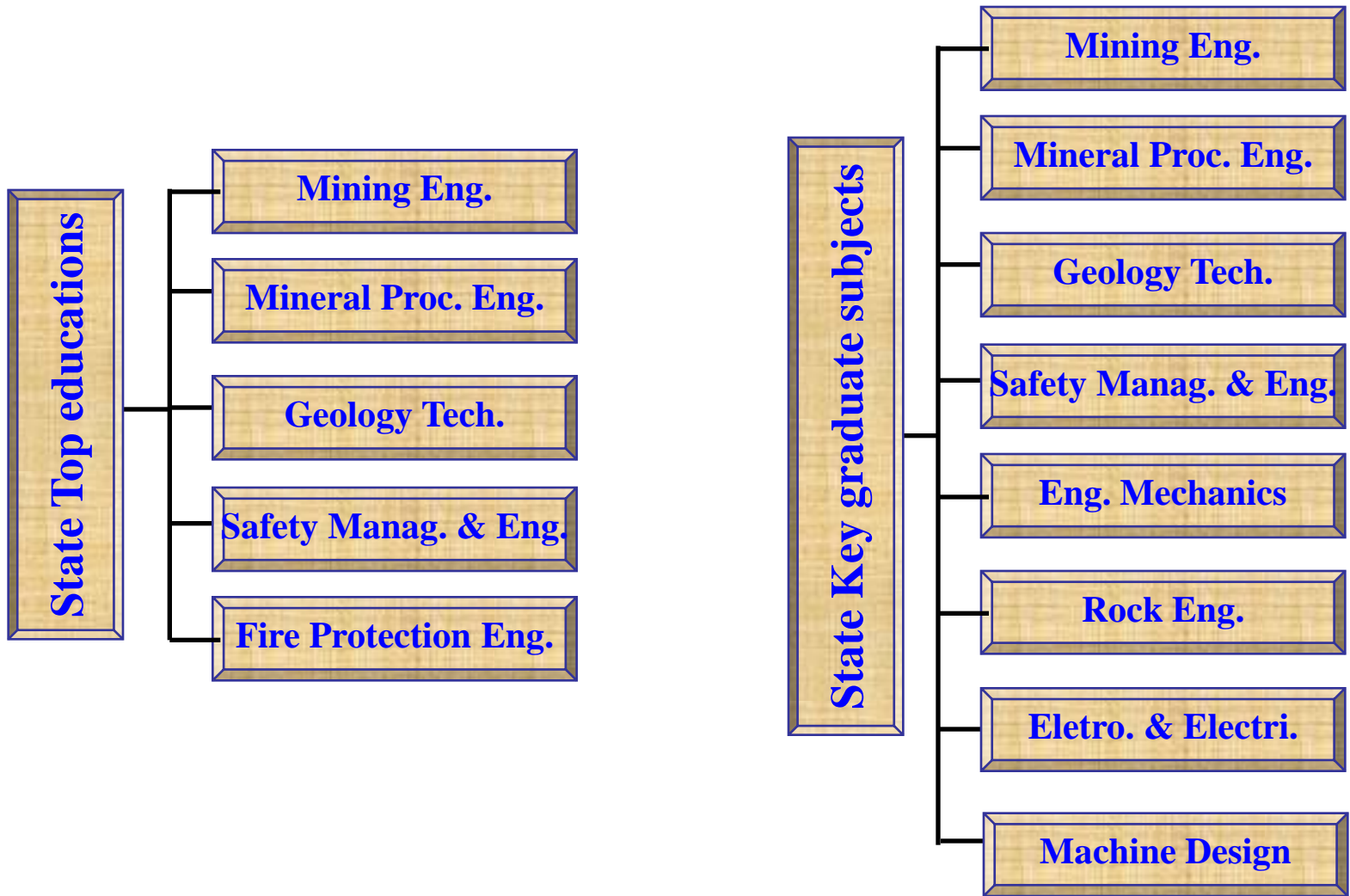
- 10 surface coal mines with 10 Mt output
- 10 high safety & high efficiency underground mines with 10 Mt output
- 6-8 coal mining groups with over 100 Mt output
- 8-10 coal mining groups with over 50 Mt output

# 煤炭液化燃料



# 直接煤液化工艺原理

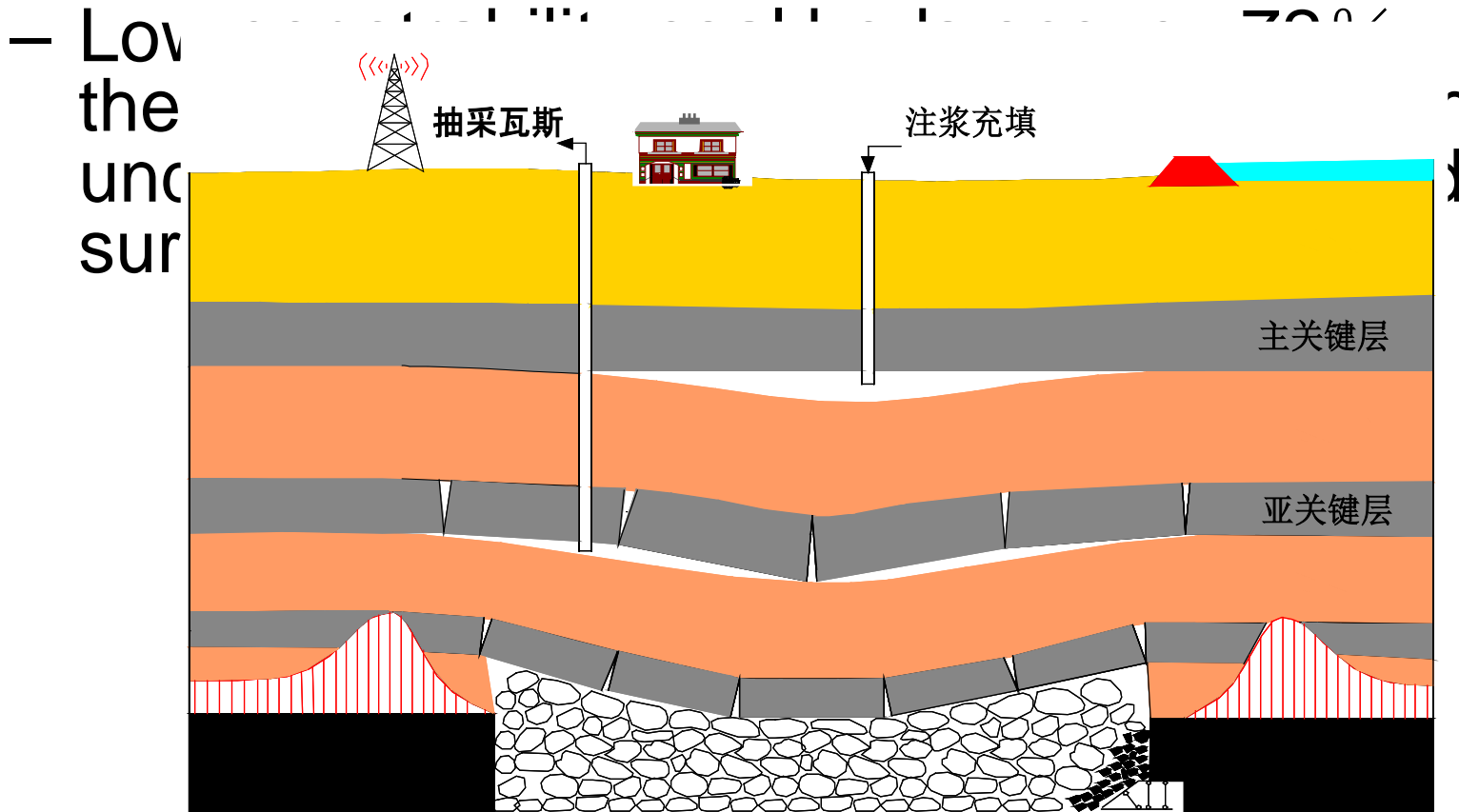




# Achievements in mining

- Green mining theory and practice
- Mining safety Technology
- High efficiency mining
- Environmental harmonic mining
- Clean coal and energy transformation
- Mining subsidence recover and sustainable development

# Green mining



Rock mechanics design and co-mining of coal and methane gas

# Mining subsidence recover



Mining land subsidence



Re-cultivated land subsidence

# Clean coal Technology



Column grade screening equipment



Friction electrical equipment separating ash and reducing sulfide



Air floating bed for dry coal preparation

# Mining safety Technology

Out-burst monitoring



Underground fire exterminating

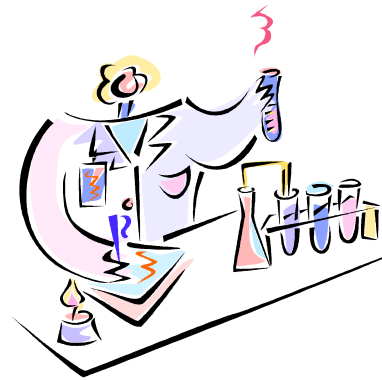
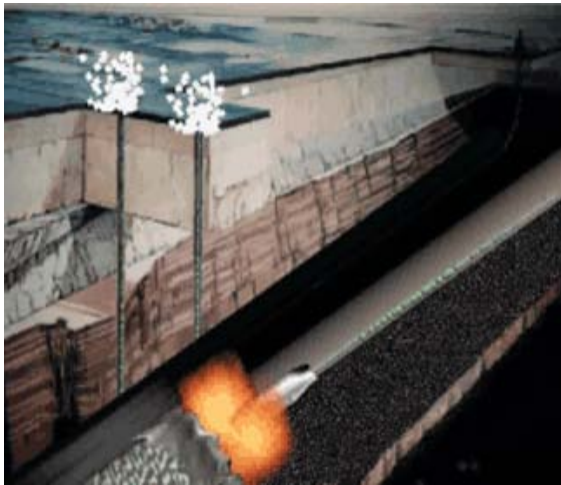


Safety monitoring



Rescue robot

# Chemistry based on underground gasification



Gasoline transfer





***Thank you.***